

HP StorageWorks SB40c storage blade

Data sheet



Gain direct-attach storage for your HP BladeSystem c-Class server blades

With the arrival of the HP StorageWorks SB40c storage blade, HP introduces an all-new class of data storage for blade servers. This innovative storage offering delivers unmatched direct-attach storage density for HP BladeSystem c-Class server blades. Now you can add storage to your blade servers without the cost of a storage area network (SAN).

Designed to keep pace with your increasing need for storage capacity, the SB40c provides a simple way to add additional drive capacity. It offers the reliability and flexibility of Serial Attached SCSI (SAS) technology with the performance and manageability of an onboard HP Smart Array P400 controller. Available in a half-height form factor, the storage blade supports up to six hot-plug small form factor (SFF) SAS or Serial ATA (SATA) hard disk drives.

Key features and benefits

Affordable capacity in a space-saving footprint—The HP StorageWorks SB40c storage blade provides up to 876 GB of storage capacity in a half-height blade. You can meet your capacity needs with a choice of SFF SAS 36 GB, 72 GB and 146 GB 10K hard disk drives, as well as 60 GB 5400-rpm SATA drives.

Easy deployment and management—HP's Array Configuration Utility (ACU) simplifies configuration, setup and management. You can manage the controller online through ACU. It enables online capacity expansion, online RAID level migration, online stripe size migration, online spares (global), user selectable read/write cache, user selectable expand and rebuild priority. In addition, industry-standard management tools, including HP Systems Insight Manager, make it easy to maintain and troubleshoot the SB40c storage blade.

Investment protection—The SB40c was designed using a SAS architecture with the ability to mix and match SAS and SATA drives in the same storage blade. You gain further investment protection with Universal Small Form Factor disk technology and a common configuration interface using HP's Array Configuration Utility.

3Gb SAS architecture—With SB40c storage blades, you gain the fastest available DAS connection—2.4 Gb/sec total bandwidth. For added flexibility, SAS also supports SAS and SATA disk drives in the same enclosure.

x4 PCI Express host interface—Enable a high-speed connection to the host server blade with an x4 PCI Express host interface. The x4 2.5G PCI Express provides up to 2 Gb/sec maximum bandwidth to the host server blade.

SB40c Storage Blade



Internal drive support	Supports up to 6 SAS (Serial Attached SCSI) or SATA (Serial Advanced Technology Attachment) universal hot-plug hard disk drives Allows for the mix of SAS and SATA drives in the same enclosure at the same time
Hard disk drives*	SFF SAS 36 GB, 72 GB, and 146 GB 10K drives SFF SATA 60 GB 5400-rpm drives
Protocol support	3Gb/s SAS 1.5Gb/s SATA
Server blade support	Supports all BladeSystem c-Class server blades Note: HP PCI Express Mezzanine Pass-Thru Card for HP BladeSystem c-Class is required to support HP BladeSystem c-Class full-height server blades
Storage capacity	Up to 876 GB per enclosure (using 146 GB 10K disk drives) Dedicated storage for adjacent server blade
RAID support	RAID 0, 1+0, 5, 6 with Advanced Data Guarding using the Smart Array P400 array controller
Form factor	4U BladeSystem c-Class storage blade Fits into a half-height bay on the BladeSystem c7000 Enclosure
Dimensions (HxWxD)	2.19 x 7.154 x 20.058 in (5.56 x 18.17 x 50.95 cm)
Weight (unloaded)	8 lb (3.63 kg)
Weight (loaded)	11 lb (4.99 kg)
Operating system support	Please refer to the SB40c QuickSpecs and/or User Guide for the latest support information
LED indicators	UIDSystem Health LED
Drive LED Indicators (on drive trays)	Drive LED (top)—Online/Activity Drive Failure LED (bottom)—Drive Fault/Locate
Relative Humidity (non-condensing)	Operating: 10 to 90% Shipping: 5 to 95%
Temperature range	Operating: 50° to 94° F (10° to 35° C) Shipping: -22° to 140° F (-30° to 60° C) Note: To maintain proper cooling and airflow, a drive blank or drive must occupy all bays during operation.
Warranty	Protected by HP Services and a worldwide network of resellers and service providers 3-year parts, 3-year labor and 3-year on-site limited global warranty; certain restrictions and exclusions apply. SATA hard drives have a one year warranty *Note: For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.

Smart Array P400 Controller

Storage controller	Integrated Smart Array P400 RAID controller
Disk drive and enclosure interface	3G SAS 1.5G SATA
SAS connectors	2 internal (SFF8484) x4 wide port connectors
Cache memory speed	DDR2-533MHz with provides up to 4.2 GB/s maximum bandwidth.
SAS speed	x8 3G SAS provides 2.4 GB/s maximum bandwidth
Cache memory	40-bit 256 MB cache; ECC protection, battery-backed, and transportable
Logical drive support	Up to 32 logical drives
Maximum logical drive capacity	876 GB (6 x 146GB)
Host memory addressing	64-bit, supporting greater than 4 GB server memory space
RAID support	RAID 6 with ADG RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)
Upgradeable firmware	Upgradeable Firmware with recovery ROM feature

Ordering Information

Product name	HP part number
HP StorageWorks SB40c storage blade	411423-B21
Product kit contents 5 drive blanks, warranty card, mounting hardware, enclosure user guide, HP SmartStart CD Kit, documentation CD	

Related Offerings

Product name	HP part number
HP PCI Express Mezzanine Pass-Thru Card for HP BladeSystem c-Class	431643-B21

NOTE: HP PCI Express Mezzanine Pass-Thru Card for HP BladeSystem c-Class is required to support the SB40c storage blade (P/N 411243-B21) with HP BladeSystem c-Class full-height server blades.

SFF Serial Attached SCSI (SAS) Hard Drives

HP 36 GB 3G SAS 10K SFF SP HDD	375859-B21
HP 72 GB 3G SAS 10K SFF SP HDD	375861-B21
HP 146 GB 3G SAS 10K SFF SP HDD	431958-B21

SFF Serial-ATA (SATA) Hard Drive

HP 60 GB SATA 1.5 Gb 5,400-rpm Hard Drive (2.5")	379306-B21
--	------------

NOTE: For complete drive compatibility information, see the HP Hard Drive Compatibility table at www.hp.com/products/harddiskdrives. Using hard drives in unsupported configurations will void the warranty and could result in damage to the drive and loss of data.

256-MB DDR2, battery-backed cache—Enhance data protection and write performance with 256 MB DDR2, battery-backed cache. Cached data is protected in the event of a power outage, server failure, or controller failure-redundant batteries offer further protection

RAID 6 Advanced Data Guarding (ADG)—Increase data protection with RAID 6 ADG. This technology allows up to two hard disk drive failures on a single logical volume before experiencing data loss, for the highest level of RAID fault resilience.

HP Services

HP Services offers a comprehensive range of services to help design, deploy, manage, and support your IT environment and business processes. Our 69,000 skilled professionals and network of service partners deliver global services capabilities across the IT lifecycle, including consulting, integration, outsourcing, and support.

HP Care Pack Services deliver continuous care

Cost-effectively upgrade or extend your standard warranty with easy-to-buy, easy-to-use support packages. HP Care Pack Services are available for purchase along with your HP StorageWorks SB40c storage blade. They reduce downtime risks with support levels that range from basic to mission-critical.

Recommend service offerings:

Enhanced Care options provide a baseline service level to achieve optimum server availability.

HP StorageWorks SB40c—3-year, 13x5, same-business-day, 4-hour onsite response hardware support

Continuous Care options deliver a recommended support level with committed same day response or fix times.

HP StorageWorks SB40c—3-year, 24x7, same-business-day, 4-hour onsite response hardware support

Total Care service options are designed to provide round-the-clock response and complex problem resolution through integrated hardware and software support.

HP StorageWorks SB40c—3-year, 24x7, Support Plus 24

Deployment Services include HP Installation services designed to take the time, risk, and worry out of the deployment of ProLiant blade servers.

HP StorageWorks SB40c—Installation Service. In addition, for new BladeSystem installations, HP recommends the Installation and Startup for c-Class BladeSystem Infrastructure service.

For more information, please visit:

www.hp.com/services/bladessystemservices

www.hp.com/go/proliant/carepack

HP Financial Services

The smartest way to invest in IT

HP Financial Services offers a wide range of leasing and financial lifecycle management services in more than 50 countries around the world. We can help you transition from existing equipment to the latest technology, acquire a new solution cost-effectively, and manage that solution throughout its life cycle. Our goal is to help you increase the return on your IT investment, reduce risk and get the most from your HP solution. For more information on HP Financial Services, visit

www.hp.com/go/hpfinancialservices

For more information

To learn more about the HP StorageWorks SB40c storage blade, contact your HP representative or HP reseller, or visit **www.hp.com/servers/sb40c**

© 2006 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Microsoft is a U.S. registered trademark of Microsoft Corporation.

To learn more, visit www.hp.com/servers/sb40c

4AA0-8761ENW, October 2006

